

**REMARKS**

Reconsideration of presently solicited method Claims 16 to 22 respectfully is requested. For the reasons indicated in detail hereafter, these claims are urged to be in condition for allowance.

As requested by the Examiner at the bottom of Page 2 of the Official Action, the "Brief Description of the Drawings" at Page 5 of the Specification has been amended to include the required paragraph with respect to the usage of a color drawing.

Applicants have provided a series of process steps while using specific starting materials to form a quality semiconductor nanocrystal pattern on a substrate. This contribution of Applicants as defined in the presently solicited claims deserves recognition. The specified process steps while using the specified starting materials make possible the creation of a precise predetermined pattern while advantageously retaining the nanocrystalline properties of the specified starting material. The resulting pattern inherently displays the luminescence characteristics of the semiconductor nanocrystals prior to the formation of the pattern. The excellent luminescence characteristics of the resulting product enable its utilization in solid state devices, such as organic light emitting diodes and photovoltaic devices.

It respectfully is submitted that the continued rejection of presently solicited Claims 16 to 19, 22, and 23, under 35 U.S.C. § 102(e) over the different subject matter of U.S. Patent Publication No. 2005/0008880 to Kunze et al. would be lacking sound technical and legal bases. Kunze et al. in all instances utilizes different starting materials, different process steps, and forms a different product.

The different teachings of Kunze et al. are apparent from a detailed reading of this publication. The starting material requires the initial use of Si and/or Ge semiconductor nanoparticles. A cyclic Group IVA compound of the formula  $(\text{AH}_x)_n$  or  $(\text{AH}_x)_m (\text{AH}_y\text{R}_{z-y})_p (\text{ZR}^1_w)_q$  is employed where A is Si or Ge with organic portions such as alkyl, aryl, or halogen. The different film of Kunze et al. is subjected in all instances to an annealing/curing/sintering step at a temperature above 200°C in an inert or reducing atmosphere. Applicants' claimed process includes nothing comparable to this annealing/curing/sintering step. When practicing the Kunze et al. annealing/curing/sintering process step the organic portions of the cyclic compound are decomposed and a sintered amorphous structure is formed wherein the components are bound together to form a linked mixed structure with loss of crystallinity. Such structure would possess dissimilar bulk properties.

In contrast the presently claimed process reliably forms a film in a predetermined pattern wherein nanoparticle properties of CdTe, ZnS, ZnSe, ZnTe, HgS, HgSe, HgTe, GaN, GaP, GaAs, InP, InAs, and mixtures of these are retained. The final pattern continues to display the advantageous luminescence characteristics of the specified nanoparticles starting material. Applicants' nanoparticles are not sintered with each other. Since the present process creates a nanocrystal film pattern that exhibits nano properties with excellent luminescence, it can be utilized in organic light emitting diodes and photovoltaic devices where reduced tolerances are necessary. In contrast, the different bulk film produced by Kunze et al. using different starting materials can be utilized in thin film transistor or radio frequency identification tags where end use tolerances are greater.

It is well established law that patentability is negated under 35 U.S.C. § 102 only when the prior disclosure is identical to the invention sought to be patented. Each and every element of the claimed invention must be disclosed in a single reference in complete detail. See Akzo N.V. v. United States ITC, 808 F.2d 1471, 1 U.S.P.Q.2d 1241 (Fed. Cir. 1986); Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986); Rolls-Royce Ltd. V. GTE Valeron Corp., 800 F.2d 1101, 231 U.S.P.Q. 185 (Fed. Cir. 1986); Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 U.S.P.Q. 81 (Fed. Cir. 1986); Great Northern Corp. v. Davir Core & Pad Co., 782 F.2d 159, 228 U.S.P.Q. 356 (Fed. Cir. 1986); In re Donohue, 766 F.2d 531, 226 U.S.P.Q. 619 (Fed. Cir. 1985); W.L. Gore & Assoc. v. Garlock, Inc., 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983); SSIH Equip. S.A. v. United States ITC, 713 F.2d 746, 218 U.S.P.Q. 678 (Fed. Cir. 1983); and Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989). The withdrawal of the rejection is urged to be in order and is respectfully requested.

Finally, the continued rejection of presently solicited Claims 20 and 21 under 35 U.S.C. § 103(a) over the different teachings of Kunze et al. combined with the deficient teachings of U.S. Patent 5,178,959 to Eckberg et al. would be similarly inappropriate. Basic deficiencies of the Kunze et al. teachings with respect to the presently solicited claims previously are identified. Reference to an exposure dose in the context of Eckberg et al. which pertains to UV-curable compositions containing epoxy-functional fluorosilicones falls far short of remedying basic deficiencies in the teachings of the primary reference. Even if the teachings of the references were somehow combined, the contribution of Applicants' presently solicited claims still

would not result or otherwise be rendered obviously apparent. The overall teachings of the references relate to different technology.

It is basic to the examination process that in order to establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. See M.P.E.P. §2143.03 in this regard. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970). The withdrawal of the sole remaining rejection is urged to be in order and is respectfully requested.

In the event there is any remaining point that requires clarification prior to the allowance of the Application, the Examiner is respectfully urged to telephone the undersigned attorney so that the matter can be discussed and resolved.

Respectfully submitted,

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